

=====

Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866)  
217-9197 (toll free).

Reviewer: Anne Corrigan

Timestamp: [year=2009; month=4; day=22; hr=9; min=26; sec=54; ms=837; ]

=====

Application No: 10579655 Version No: 2.0

Input Set:

Output Set:

Started: 2009-04-09 10:40:53.649  
Finished: 2009-04-09 10:40:59.021  
Elapsed: 0 hr(s) 0 min(s) 5 sec(s) 372 ms  
Total Warnings: 3  
Total Errors: 0  
No. of SeqIDs Defined: 374  
Actual SeqID Count: 374

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (20)
W 213	Artificial or Unknown found in <213> in SEQ ID (21)
W 402	Undefined organism found in <213> in SEQ ID (25)

# SEQUENCE LISTING

<110> Sanofi Pasteur, Inc.

<120> METHODS FOR PURIFYING PERTUSSIS TOXIN AND PEPTIDES USEFUL THEREFOR

<130> API-03-15

<140> 10579655

<141> 2009-04-09

<150> 60/523,881

<151> 2003-11-20

<150> PCT/US2004/038700

<151> 2004-11-18

<160> 374

<170> PatentIn version 3.3

<210> 1

<211> 7

<212> PRT

<213> Gymnema sylvestre

<400> 1

Asn Gly Ser Phe Ser Gly Phe

1 5

<210> 2

<211> 7

<212> PRT

<213> Gymnema sylvestre

<400> 2

Asn Gly Ser Phe Ser Gly Cys

1 5

<210> 3

<211> 7

<212> PRT

<213> Gymnema sylvestre

<400> 3

Asp Gly Ser Phe Ser Gly Phe

1 5

<210> 4

<211> 7  
<212> PRT  
<213> *Gymnema sylvestre*

<220>  
<221> MISC\_FEATURE  
<222> (1)..(7)  
<223> X is any amino acid

<400> 4

Xaa Gly Ser Phe Ser Gly Xaa  
1 5

<210> 5  
<211> 30  
<212> PRT  
<213> *Gymnema sylvestre*

<400> 5

Arg Ser Ser His Cys Arg His Arg Asn Cys His Thr Ile Thr Arg Gly  
1 5 10 15

Asn Met Arg Ile Glu Thr Pro Asn Asn Ile Arg Lys Asp Ala  
20 25 30

<210> 6  
<211> 29  
<212> PRT  
<213> *Gymnema sylvestre*

<400> 6

Ser Thr Met Asn Thr Asn Arg Met Asp Ile Gln Arg Leu Met Thr Asn  
1 5 10 15

His Val Lys Arg Asp Ser Ser Pro Gly Ser Ile Asp Ala  
20 25

<210> 7  
<211> 30  
<212> PRT  
<213> *Gymnema sylvestre*

<400> 7

Arg Ser Asn Val Ile Pro Leu Asn Glu Val Trp Tyr Asp Thr Gly Trp  
1 5 10 15

Asp Arg Pro His Arg Ser Arg Leu Ser Ile Asp Asp Asp Ala  
20 25 30

<210> 8

<211> 30

<212> PRT

<213> *Gymnema sylvestre*

<400> 8

Arg Ser Trp Arg Asp Thr Arg Lys Leu His Met Arg His Tyr Phe Pro  
1 5 10 15

Leu Ala Ile Asp Ser Tyr Trp Asp His Thr Leu Arg Asp Ala  
20 25 30

<210> 9

<211> 34

<212> PRT

<213> *Gymnema sylvestre*

<400> 9

Ser Gly Cys Val Lys Lys Asp Glu Leu Cys Ala Arg Trp Asp Leu Val  
1 5 10 15

Cys Cys Glu Pro Leu Glu Cys Ile Tyr Thr Ser Glu Leu Tyr Ala Thr  
20 25 30

Cys Gly

<210> 10

<211> 34

<212> PRT

<213> *Gymnema sylvestre*

<400> 10

Ser Gly Cys Val Lys Lys Asp Glu Leu Cys Glu Leu Ala Val Asp Glu  
1 5 10 15

Cys Cys Glu Pro Leu Glu Cys Phe Gln Met Gly His Gly Phe Lys Arg  
20 25 30

Cys Gly

<210> 11  
<211> 35  
<212> PRT  
<213> *Gymnema sylvestre*

<400> 11

Ser Gly Cys Val Lys Lys Asp Glu Leu Cys Ser Gln Ser Val Pro Met  
1 5 10 15

Cys Cys Glu Pro Leu Glu Cys Lys Trp Phe Asn Glu Asn Tyr Gly Ile  
20 25 30

Cys Gly Ser  
35

<210> 12  
<211> 34  
<212> PRT  
<213> *Gymnema sylvestre*

<400> 12

Ser Gly Cys Val Lys Lys Asp Glu Leu Cys Glu Leu Ala Ile Asp Glu  
1 5 10 15

Cys Cys Glu Pro Leu Glu Cys Thr Lys Gly Asp Leu Gly Phe Arg Lys  
20 25 30

Cys Gly

<210> 13  
<211> 35  
<212> PRT  
<213> *Gymnema sylvestre*

<400> 13

Gln Gln Cys Val Lys Lys Asp Glu Leu Cys Ile Pro Tyr Tyr Leu Asp  
1 5 10 15

Cys Cys Glu Pro Leu Glu Cys Lys Lys Val Asn Trp Trp Asp His Lys  
20 25 30

Cys Ile Gly  
35

<210> 14  
<211> 31  
<212> PRT  
<213> *Gymnema sylvestre*

<220>  
<221> MISC\_FEATURE  
<222> (9)..(30)  
<223> X is any amino acid

<400> 14

Cys	Val	Lys	Lys	Asp	Glu	Leu	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Cys	Cys
1				5				10						15	

Glu	Pro	Leu	Glu	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Cys
		20					25						30	

<210> 15  
<211> 141  
<212> DNA  
<213> *Gymnema sylvestre*

<220>  
<221> misc\_feature  
<222> (49)..(113)  
<223> n is a, g, t or c

<400> 15  
agtggctcaa gctcaggatc aggetgcgctc aagaaagacg agctctgcnn snnnsnnsnns 60  
nnsnnstgct gtgagccct cgagtgcnnns nnsnnsnnsn nsnnnsnnsn snnstgcggc 120  
agcggcagtt ctgggtctag c 141

<210> 16  
<211> 84  
<212> DNA  
<213> *Gymnema sylvestre*

<400> 16  
taatacgact cactataggg acaattacta ttacaatta caatgcacca tcaccatcac 60  
catagtggct caagctcagg atca 84

<210> 17  
<211> 44  
<212> DNA  
<213> *Gymnema sylvestre*

<400> 17

ttttaaatag cggatgctac taggctagac ccagaactgc cgct

44

<210> 18  
<211> 10  
<212> RNA  
<213> *Gymnema sylvestre*

<400> 18  
uagcgggaugc

10

<210> 19  
<211> 53  
<212> PRT  
<213> *Gymnema sylvestre*

<220>  
<221> MISC\_FEATURE  
<222> (18)..(43)  
<223> Xaa is any amino acid

<400> 19

Thr Met Val Met Gly Arg Gly Ser His His His His His His Ala Arg  
1 5 10 15

Ser Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Asp Ala Asn Ala Pro  
35 40 45

Lys Ala Ser Ala Ile  
50

<210> 20  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic histidine tag

<400> 20

His His His His His His  
1 5

<210> 21  
<211> 6



<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> Synthetic amino acid linker  
  
<400> 21

Asp Ala Asn Ala Pro Lys  
1 5

<210> 22  
<211> 127  
<212> DNA  
<213> *Gymnema sylvestre*

<220>  
<221> MISC\_FEATURE  
<222> (28)..(105)  
<223> n is A, T, G or C

<400> 22  
agcggatgcc ttcggagcgt tagcgtcnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 60  
  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnagatc tagcatgatg 120  
  
atgatga 127

<210> 23  
<211> 81  
<212> DNA  
<213> *Gymnema sylvestre*

<400> 23  
taatagcact catagggaca attactatntt acaattacaa tgggacgtgg ctacatcat 60  
  
catcatcatc atgctagatc t 81

<210> 24  
<211> 32  
<212> DNA  
<213> *Gymnema sylvestre*

<400> 24  
aattaaatag cggatgcctt cggagcgtta gc 32

<210> 25  
<211> 18  
<212> DNA  
<213> Bacteriophage M13

<400> 25

<210> 26  
 <211> 54  
 <212> PRT  
 <213> *Gymnema sylvestre*

<400> 26

Met His His His His His His Ser Gly Ser Ser Ser Gly Ser Gly Cys  
 1 5 10 15

Val Lys Lys Asp Glu Leu Cys Ala Gly Ser Val Gly His Cys Cys Glu  
 20 25 30

Pro Leu Glu Cys Leu Arg Arg Phe Leu Asn Leu Arg Trp Cys Gly Ser  
 35 40 45

Gly Ser Ser Gly Ser Ser  
 50

<210> 27  
 <211> 54  
 <212> PRT  
 <213> *Gymnema sylvestre*

<400> 27

Met His His His His His His Ser Gly Ser Ser Ser Gly Ser Gly Cys  
 1 5 10 15

Val Lys Lys Asp Glu Leu Cys Lys Ala Phe Arg Tyr Ser Cys Cys Glu  
 20 25 30

Pro Leu Glu Cys Leu Arg Lys Trp Leu Lys Ala Arg Phe Cys Gly Ser  
 35 40 45

Gly Ser Ser Gly Ser Ser  
 50

<210> 28  
 <211> 54  
 <212> PRT  
 <213> *Gymnema sylvestre*

<400> 28

Met His His His His His His Ser Gly Ser Ser Ser Gly Ser Gly Cys

1	5	10	15												
Val	Lys	Lys	Asp	Glu	Leu	Cys	Lys	Ala	Phe	Arg	Tyr	Ser	Cys	Cys	Glu
			20					25					30		
Pro	Leu	Glu	Cys	Leu	Arg	Lys	Trp	Leu	Lys	Ala	Arg	Phe	Cys	Gly	Ser
			35				40					45			
Gly	Ser	Ser	Gly	Ser	Ser										
			50												

<210> 29  
 <211> 54  
 <212> PRT  
 <213> *Gymnema sylvestre*

<400>	29														
Met	His	His	His	His	His	His	Ser	Gly	Ser	Ser	Ser	Gly	Ser	Gly	Cys
1				5					10					15	

Val	Lys	Lys	Asp	Glu	Leu	Cys	Leu	Arg	Ser	Ser	Ile	Asp	Cys	Cys	Glu
			20					25					30		

Pro	Leu	Glu	Cys	Leu	Tyr	Lys	Trp	Met	Gln	Arg	Arg	Leu	Cys	Gly	Ser
			35				40					45			

Gly	Ser	Ser	Gly	Ser	Ser
			50		

<210> 30  
 <211> 54  
 <212> PRT  
 <213> *Gymnema sylvestre*

<400>	30														
Met	His	His	His	His	His	His	Ser	Gly	Ser	Ser	Ser	Gly	Ser	Gly	Cys
1				5					10					15	

Val	Lys	Lys	Asp	Glu	Leu	Cys	Trp	Pro	Arg	Arg	His	Lys	Cys	Cys	Glu
			20					25					30		

Pro	Leu	Glu	Cys	Leu	Leu	Glu	Met	Leu	Glu	Arg	Lys	Arg	Cys	Gly	Ser
			35				40					45			

Gly Ser Ser Gly Ser Ser  
50

<210> 31  
<211> 53  
<212> PRT  
<213> *Gymnema sylvestre*

<400> 31

Met His His His His His His Ser Gly Ser Ser Ser Gly Ser Gly Cys  
1 5 10 15

Val Lys Lys Asp Glu Leu Cys Met Ser Met Ala Cys Val Cys Cys Glu  
20 25 30

Pro Leu Glu Cys Lys Tyr His Gly Tyr Phe Trp Leu Cys Gly Ser Gly  
35 40 45

Ser Ser Gly Ser Ser  
50

<210> 32  
<211> 54  
<212> PRT  
<213> *Gymnema sylvestre*

<400> 32

Met His His His His His His Ser Gly Ser Ser Ser Gly Ser Gly Cys  
1 5 10 15

Val Lys Lys Asp Glu Leu Cys Ala Val Trp Phe Asp Val Cys Cys Glu  
20 25 30

Pro Leu Glu Cys Thr Tyr Gln Ser Gly Tyr Tyr Trp Leu Cys Gly Ser  
35 40 45

Gly Ser Ser Gly Ser Ser  
50

<210> 33  
<211> 54  
<212> PRT  
<213> *Gymnema sylvestre*

<400> 33

Met His His His His His His Ser Gly Ser Ser Ser Gly Ser Gly Cys  
1 5 10 15

Val Lys Lys Asp Glu Leu Cys Glu Pro Trp Tyr Trp Arg Cys Cys Glu  
20 25 30

Pro Leu Glu Cys Val Tyr Thr Ser Gly Tyr Tyr Tyr Ser Cys Gly Ser  
35 40 45

Gly Ser Ser Gly Ser Ser  
50

<210> 34  
<211> 54  
<212> PRT  
<213> *Gymnema sylvestre*

<400> 34

Met His His His His His His Ser Gly Ser Ser Ser Gly Ser Gly Cys  
1 5 10 15

Val Lys Lys Asp Glu Leu Cys Ala Arg Trp Asp Leu Val Cys Cys Glu  
20 25 30

Pro Leu Glu Cys Ile Tyr Thr Ser Glu Leu Tyr Ala Thr Cys Gly Ser  
35 40 45

Gly Ser Ser Gly Ser Ser  
50

<210> 35  
<211> 54  
<212> PRT  
<213> *Gymnema sylvestre*

<400> 35

Met His His His His His His Ser Gly Ser Ser Ser Gly Ser Gly Cys  
1 5 10 15

Val Lys Lys Asp Glu Leu Cys Val Phe Tyr Phe Pro Asn Cys Cys Glu  
20 25 30

Pro Leu Glu Cys Arg Trp Val Asn Asp Asn Tyr Gly Trp Cys Gly Ser  
35 40 45

Gly Ser Ser Gly Ser Ser  
50

<210> 36  
<211> 53  
<212> PRT  
<213> *Gymnema sylvestre*

<400> 36

Met His His His His His His Ser Gly Ser Ser Ser Gly Ser Gly Cys  
1 5 10 15

Val Lys Lys Asp Glu Leu Cys Met Ser Met Ala Cys Val Cys Cys Glu  
20 25 30

Pro Leu Glu Cys Lys Tyr His Gly Tyr Phe Trp Leu Cys Gly Ser Gly  
35 40 45

Ser Ser Gly Ser Ser  
50

<210> 37  
<211> 54  
<212> PRT  
<213> *Gymnema sylvestre*

<400> 37

Met His His His His His His Ser Gly Ser Ser Ser Gly Ser Gly Cys  
1 5 10 15

Val Lys Lys Asp Glu Leu Cys Thr Thr Ala Ser Lys Ser Cys Cys Glu  
20 25 30

Pro Leu Glu Cys Lys Trp Thr Asn Glu His Phe Gly Thr Cys Gly Ser  
35 40 45

Gly Ser Ser Gly Ser Ser  
50

<210> 38  
<211> 54  
<212> PRT  
<213> *Gymnema sylvestre*

<400> 38

Met His His His His His His Ser Gly Ser Ser Ser Gly Ser Gly Cys  
1 5 10 15

Val Lys Lys Asp Glu Leu Cys Ser Gln Ser Val Pro Met Cys Cys Glu  
20 25 30

Pro Leu Glu Cys Lys Trp Phe Asn Glu Asn Tyr Gly Ile Cys Gly Ser  
35 40 45

Gly Ser Ser Gly Ser Ser  
50

<210> 39  
<211> 54  
<212> PRT  
<213> *Gymnema sylvestre*

<400> 39

Met His His His His His His Ser Gly Ser Ser Ser Gly Ser Gly Cys  
1 5 10 15

Val Lys Lys Asp Glu Leu Cys Ala Arg Trp Asp Leu Val Cys Cys Glu  
20 25 30

Pro Leu Glu Cys Ile Tyr Thr Ser Glu Leu Tyr Ala Thr Cys Gly Ser  
35 40 45

Gly Ser Ser Gly Ser Ser  
50

<210> 40  
<211> 54  
<212> PRT  
<213> *Gymnema sylvestre*

<400> 40

Met His His His His His His Ser Gly Ser Ser Ser Gly Ser Gly Cys  
1 5 10 15

Val Lys Lys Asp Glu Leu Cys Ala Arg Trp Asp Leu Val Cys Cys Glu  
20 25 30

Pro Leu Glu Cys Leu Gly His Gly Leu Gly Tyr Ala Tyr Cys Gly Ser  
35 40 45

Gly Ser Ser Gly Ser Ser  
50

<210> 41  
<211> 53  
<212> PRT  
<213> *Gymnema sylvestre*

<400> 41

Met His His His His His His Ser Gly Ser Ser Ser Gly Ser Gly Cys  
1 5 10 15

Val Lys Lys Asp Glu Leu Cys Met Trp Ser Arg Glu Val Cys Cys Glu  
20 25 30

Pro Leu Glu Cys Tyr Tyr Thr Gly Trp Tyr Trp Ala Cys Gly Ser Gly  
35 40 45

Ser Ser Gly Ser Ser  
50

<210> 42  
<211> 54  
<212> PRT  
<213> *Gymnema sylvestre*

<400> 42

Met His His His His His His Ser Gly Ser Ser Ser Gly Ser Gly Cys  
1 5 10 15

Val Lys Lys Asp Glu Leu Cys Glu Leu Ala Val Asp Glu Cys Cys Glu  
20 25 30

Pro Leu Glu Cys Phe Gln Met Gly His Gly Phe Lys Arg Cys Gly Ser  
35 40 45

Gly Ser Ser Gly Ser Ser  
50

<210> 43  
<211> 54  
<212> PRT  
<213> *Gymnema sylvestre*



<400> 43

Met His His His His His His Ser Gly Ser Ser Ser Gly Ser Gly Cys  
1 5 10 15

Val Lys Lys Asp Glu Leu Cys Glu Leu Ala Val Asp Glu Cys Cys Glu  
20 25 30

Pro Leu Glu Cys Thr Lys Gly Asp Leu Gly Phe Arg Lys Cys Gly Ser  
35 40 45

Gly Ser Ser Gly Ser Ser  
50

<210> 44

<211> 54

<212> PRT

<213> *Gymnema sylvestre*

<400> 44

Met His His His His His His Ser Gly Ser Ser Ser Gly Ser Gly Cys  
1 5 10 15

Val Lys Lys Asp Glu Leu Cys Glu Leu Ala Ile Asp Val Cys Cys Glu  
20 25 30

Pro Leu Glu Cys Leu Gly His Gly Leu Gly Tyr Ala Tyr Cys Gly Ser  
35 40 45

Gly Ser Ser Gly Ser Ser  
50

<210> 45

<211> 54

<212> PRT

<213> *Gymnema sylvestre*

<400> 45

Met His His His His His His Ser Gly Ser Ser Ser Gly Ser Gly Cys  
1 5 10